

I. Rejection Under 35 U.S.C. §102(b)

Claims 10-11, 13-15 and 17-18 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 4,243,621 ("Mori") (and U.S. Patents Nos. 4,511,461 and 6,162,855 as evidence). This rejection is respectfully traversed.

The Patent Office alleges that Mori teaches or suggests all of the features recited in claims 10-11, 13-15 and 17-18. The Patent Office specifically points to the first method of Mori as allegedly teaching the method recited in the rejected claims. As discussed during the November 14, 2005 interview, Applicants respectfully disagree with the Patent Office's allegations.

Applicants submit that Mori does not teach or suggest that the average particle size of each of the metal silicon powder and the nonoxide ceramic powder contained in the composition is in a range from 1 to 50 μm as recited in claims 10 and 14. Furthermore, Mori does not teach or suggest that a mixing ratio of the metal silicon powder and the nonoxide ceramic powder is between 5 parts or more and less than 60 parts of the metal silicon powder with respect to 100 parts of a total amount of the nonoxide ceramic powder as recited in claim 10, or that the mixing ratio of the metal silicon powder and the nonoxide ceramic powder is between 10 parts or more and less than 100 parts of the metal silicon powder with respect to 100 parts of a total amount of the nonoxide ceramic powder as recited in claim 14.

As discussed during the November 14, 2005 interview, the Patent Office's interpretation of the claim language "between 5 parts or more and less than 60 parts" as encompassing both 100,000 and 0.001, because 100,000 is allegedly within "5 parts or more" and 0.001 is allegedly "less than 60", is erroneous. These values are clearly not within the claimed range of between 5 parts or more and less than 60.

The Patent Office's interpretation of the claimed ranges is clearly incorrect in view of common English grammar and usage. The attached websites clearly demonstrate that (1) ten

thousand dollars is not included in a range between \$25,000 or more and less than \$50,000; (2) forty feet is not included in a range between 12 feet or more and less than 16 feet; and (3) fifteen years is not included in a range between 7 or more and less than 11 years.

The Office Action alleges that Mori's silicon nitride powder corresponds to the nonoxide ceramic powder recited in the present claims. However, the use of the small amount of fine silicon nitride powder in the range of 0.2 to 10 weight % as taught by Mori fails to anticipate the mixing ratio of a metal silicon powder (between 5 and 60 parts, inclusive (claim 10) or between 10 and 100 parts, inclusive (claim 14)) and the nonoxide ceramic powder (e.g., silicon nitride powder) (100 parts). In these claims, the nonoxide ceramic powder comprises no less than 50% by weight of the mixed powders, an amount substantially greater than the amount of silicon nitride powder taught to be used in Mori.

Moreover, as discussed during the November 14, 2005 interview, the recitation "consisting essentially of" in claims 10 and 14 excludes the silica powder of Mori. These claims recite a composition consisting essentially of a metal silicon powder and at least one nonoxide ceramic powder. Mori, however, teaches a composition that must include metal silicon powder and silica, and which may also contain silicon nitride. The silica powder taught by Mori is an oxide ceramic powder necessary to make the described β -sialon material.

The Patent Office alleges that the burden is on the Applicants to demonstrate that the silica powder in Mori would materially affect the basic and novel characteristics of the present material. As explained during the aforementioned interview, the methods recited in claims 10-11, 13-15 and 17-18 generate microporous materials of nonoxide ceramics. Thus, the use of silica (an oxide ceramic powder) as required in Mori would clearly affect the basic characteristics of such nonoxide ceramics. Therefore, Applicants submit that silica powder is clearly excluded from the main component used in the claimed methods.

For the foregoing reasons, Applicants submit that Mori does not teach or suggest all of the features recited in claims 10-11, 13-15 and 17-18. Reconsideration and withdrawal of the rejection are thus respectfully requested.

II. Rejection Under 35 U.S.C. §103(a)

Claims 10-11, 13-15 and 17-18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Mori in view of Kingery, "Introduction to Ceramics," Second edition, page 9 ("Kingery"). This rejection is respectfully traversed.

Kingery is a review of general ceramic processes. Kingery was cited as allegedly describing the size of ceramic powders. Kingery does not remedy the deficiencies of Mori. In particular, Applicants submit that Kingery also fails to teach or suggest the specific mixing ratio of metal silicon powder to at least one nonoxide ceramic powder.

For the foregoing reasons, Applicants submit that Mori and/or Kingery do not teach or suggest all of the features recited in claims 10-11, 13-15 and 17-18. Reconsideration and withdrawal of the rejection are thus respectfully requested.

III. Rejoinder

Applicants submit that upon allowance of elected claims 10-11, 13-15 and 17-18, withdrawn claims 1-9, 19 and 20 should be rejoined and similarly allowed.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11, 13-15 and 17-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Attachment:

Excerpts from three websites

Date: November 28, 2005

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DEPOSIT ACCOUNT USE
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